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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,428	04/20/2004	Manish Bahl	YOR920040144US1 (17615)	5485
23389 7590 01/19/2007 SCULLY SCOTT MURPHY & PRESSER, PC 400 GARDEN CITY PLAZA SUITE 300 GARDEN CITY, NY 11530			EXAMINER FLANIGAN, ALLEN J	
			ART UNIT 3744	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/19/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/828,428	Applicant(s) BAHL ET AL.	
	Examiner Allen J. Flanigan	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 10, 11 and 15-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 6, 7 and 12-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Applicant's election without traverse of the species of Figs. 1-2, and the subspecies of Fig. 6a in the reply filed on 11/13/2006 is acknowledged. Although applicant did not elect one of the two subspecies of pipe mounting arrangements shown in Figs. 5a and 5b, in view of the fact that there are currently no claims specifically drawn to this feature, this aspect of the election requirement will be held in abeyance until such time as claims to one or both of these embodiments are presented.

Claims 10, 11, and 15-31 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11/13/2006.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mok in view of Lopatinsky et al.

Mok show all of the claimed elements including multiple heat sink means, a heat distribution block, and a plurality of heat pipes conveying heat from the block to the fins of the heat sink. Mok lacks the disk fan elements of

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the claimed fan means (Mok employs a type of blower with axially extending blades that extend from the central rotational axis as seen in Fig. 5, for example).

Lopatinsky et al. show that it is known to use the type of annular disk type fan recited in the claims to force air radially through a heat sink surrounding an axial impeller; in fact it essentially demonstrates these types of fan designs are known to be equivalent. Figs. 1-9 embodiments of Lopatinsky et al. employ axially extending blades similar to those shown in the illustrative blower of Mok; the Figs. 10-11 embodiment shows an impeller using disk type blades 207 of the type claimed. Thus, it would have been an obvious substitution of known equivalents to use this type of impeller to force air through the heat sink of Mok.

Regarding claim 2, although not explicitly illustrated, some sort of drive motor (typically electrical) would inherently be required in order for the fan/blower to turn. Regarding claim 12, the fins 216 provided on surface 202 read on the claimed "heat transfer means for transferring additional heat"

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mok in view of Lopatinsky et al. as applied to claim 2 above, and further in view of Wilkinson.

Lopantinsky et al. show a laminar disk fan constructed by providing arms extending from a central axis on each disk member (Fig. 11). Another known way of attaching the disks to each other and holding them in spaced

relation is shown in Wilkinson (see Figs. 1-3), with tension rods passing through spacers holding the disks firmly apart in the appropriate spacing. This allows for unobstructed central passages in the disks for incoming airflow. It would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ such an alternate construction in the laminar flow fan of the Figs. 10-11 embodiment, as adapted to the heat sink of Mok.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mok in view of Lopatinsky et al. and Wilkinson as applied to claim 4 above, and further in view of White.

See lines 29-33 of column 2 of White. In general, the streamlining of objects subject to airflow to reduce drag and pressure losses is notoriously well known in a variety of arts, including the fan/impeller art. White explicitly suggest that spacers such as those taught in the laminar impeller of Wilkinson can be streamlined. Thus, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to form the spacers 50 of Wilkinson in an elliptical, teardrop, oval, or any other shape known to be aerodynamically clean for reduced drag.

Claims 6, 7, and 12-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Powell, Gaunt et al. and Webster, Jr. et al. (latter two cited by applicant) show laminar flow fan designs. The remaining references show various fan cooled heat pipe type heat sinks.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen J. Flanigan whose telephone number is (571) 272-4910. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Allen J. Flanigan
Primary Examiner
Art Unit 3744

AJF